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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,225	01/28/2004	Troy Prince	ORB-024	2876
7590		04/06/2006	EXAMINER	
Brian Kolkowski		BAREFOOT, GALEN L		
Orbital Research Inc.		ART UNIT		
6340 Taylor Road		PAPER NUMBER		
Leroy, OH 44077		3644		

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/766,225	Applicant(s) PRINCE ET AL.	
	Examiner Galen L. Barefoot	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Katz (5365490). Katz describes a body moving through a fluid, which by definition is a “missile” or “aircraft”, a craft or vehicle that moves through a fluid (air). See figure 2 of Katz.

Katz shows multiple deployable flow effectors 27 that are response to pressure sensors 20 and are arranged around the circumference of the body in rows.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katz in view of Lisy et al(6105904).

Lisy shows flow effectors that are arranged around a nose cone and show multiple of them and they will generate a side force depending on their location.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the flow effectors of Lisy et al (904) for that of Katz around the nose of a air vehicle to control side forces as taught by Lisy et al since it is the mere substitution of flow control with the added use of side control force.

1. Claims 8,13-16,18,20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Zell (5326050).

Zell shows flow effectors 16 and 18 and inertial means 58 and it controls the side forces on the air vehicle.

1. Claims 9 –10,17,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zell in view of Lisy et al (6105904) .

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide plural flow effectors around the nose of Zell as taught by Lisy et al since it will effect the flow control in three dimensions since it will be more effective control in different directions.

2. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zell in view of Katz (5365490) .

Katz in col. 10 states: "(24) The new method provides a number of advantages. In particular, it provides a relatively inexpensive and very reliable method for detecting the onset of turbulence in a fluid medium caused by a body moving in the medium. "

It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the flow effector 27 of Katz for that of Zell since it operates at frequencies that will more accurately counter the disturbances from its onset and better effect the control of the flow around the nose.

Applicant's remarks have been considered but have not been deemed to be persuasive since they are more specific than what is claimed or the broadest reasonable interpretation of the prior art.

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Galen L Barefoot whose telephone number is 571-272-6898.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045.

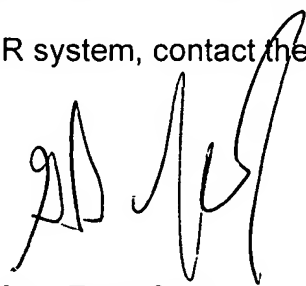
On July 15, 2005, the Central FAX Number will change to **571-273-8300**.

CENTRALIZED DELIVERY POLICY: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number.

Any inquiry of a general nature or relating to the status of this application or proceedings should be directed to **800-786-9199**.

Information regarding the status of an application may also be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 3, 2006



Galen Barefoot

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**Primary Examiner
Technology Center 3644**